G. family:
Angelina; onset October 8, 1913; age 2 years.
Rocco; onset October 11, 1913; age 6 years.
Lib. family: Julia; onset October 14, 1913; age 15 years.
Las. family:
Rocco; onset March 11, 1914; age 10 years.
Daniel; onset March 20, 1914; age 12 years.
Louis; onset March 20, 1914; age 8 years.
Theresa; onset March 20, 1914; age 4 years.
Mrs.; onset April 1, 1914; died; age 30 years.

The probable sequence [1] of infection is as follows. Mrs. C. and Julia C. were probably infected nursing Mike, who did not enter the hospital till late in the course of the disease, being sent to the hospital because of the development of a peri-renal abscess. As Mike did not enter the hospital till October 11, he was probably the source of infection for George as well, rather than the more recently ill mother and sister.

The members of the G. and Lib. family visited the C. family during the illness of Mike and may have easily been infected from this source, especially considering the cramped quarters the family occupied.

With the developing of pregnancy of Mrs. Las., the mother, Mrs. C., was called upon for help in the household work, and came in more frequent contact with the members of the Las family. Although Mrs. C. was discharged from the hospital only after three negative examinations of her feces, she was found to be a carrier when examined in May, 1914, and is still excreting typhoid bacilli at the present time, although remittently. A remission of nearly six months has occurred while under our observation.

Discharge negative examinations are a safeguard only in so far as they prevent the return of convalescents to their homes while still excreting typhoid bacilli in appreciable numbers. The history of the above carrier indicates the value of a prolonged period of observation of those convalescents who are engaged in occupations where they handle foodstuffs. According to the present department procedure, such persons are now kept under observation and reexamined over a period of six months.

## MALARIA IN ARKANSAS.

### PREVALENCE AND GEOGRAPHIC DISTRIBUTION—1915 AND 1916.

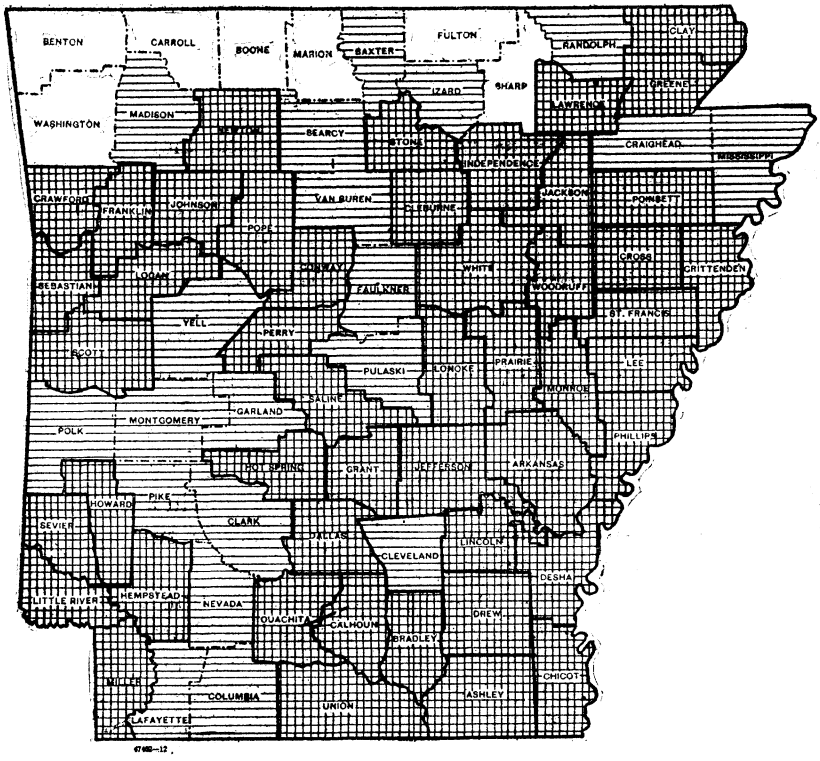
The study of the prevalence and geographic distribution of malarial fevers in the State of Arkansas, through the circularization of the practicing physicians, was begun in 1913. Previous reports on this subject were published in the Public Health Reports of January 2, 1914, and May 28, 1915, and issued as reprints Nos. 160 and 277.

[1] Based on statements of family.

During 1915 and 1916 the physicians were circularized every three months, reply postal cards being used for the purpose.

Of the cards sent to the physicians about 14 per cent were returned. The number of cards sent out, the number of schedules returned, and the number of counties represented at each circularization are shown in Table 1.

It is to be borne in mind that the number of cases reported by the physicians does not show the number of cases that actually occurred, for an average of only a little more than 14 per cent of the physicians



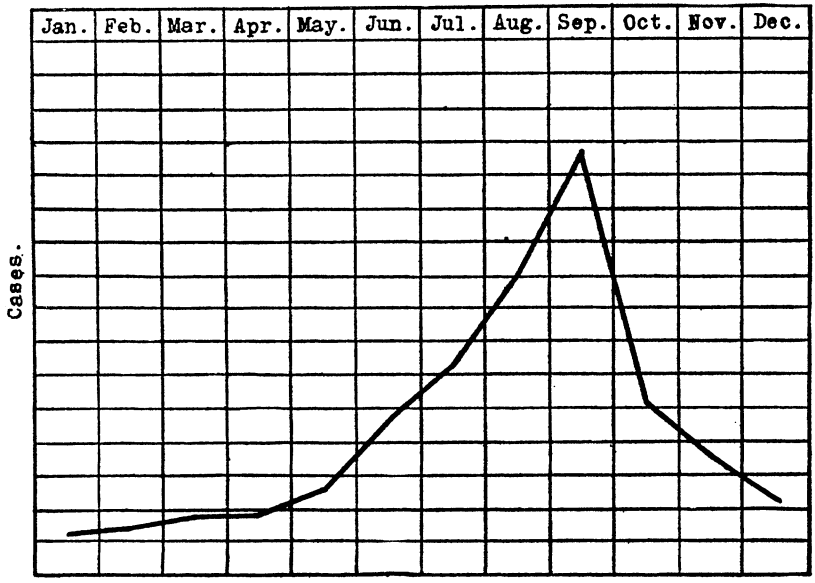

Relative prevalence of malaria in Arkansas, by counties in proportion to the population, as indicated by the number of cases reported.

returned the schedules. While there must have been many more cases of malaria in the State, the reports of the physicians on which this study is based are sufficient to show whether malaria was present or absent in the several counties, and reasonably accurately the relative intensity of the infection in the counties.

The cases reported throughout the State by months are shown in Table 2. The relative numbers of cases reported by months are shown in the chart.

The number of cases reported from the several counties of the State are given by race and year in Table 3.

The map on page 101 shows the relative prevalence of the disease in the several counties of the State, the heavier shaded counties being those in which the infection was heaviest, the unshaded counties those in which the infection was lightest, as indicated by the numbers of cases reported. The relative intensity of infection was determined




Relati.e pre .ence of ma.aria in Arkansas, by months, as indicated by the number of cases reported.

by ascertaining the number of cases reported in each county during the two years—1915 and 1916—per 1,000 population. The population used was that of the 1910 census, it being impracticable to use current estimates for the purpose.

Table 4 shows that hemoglobinuric fever was reported in 17 counties.

TABLE 1.—*Results of circularization of practicing physicians.*

| Period. | Inquiry cards sent to physicians. | Replies received. | Percentage of replies. | Counties represented in replies. | Counties not heard from. | Cases of malaria reported. |
|---|---|---|---|---|---|---|
| 1915. | | | | | | |
| January to March | 6,900 | 1,248 | 18.09 | 74 | 1 | 2,359 |
| April to June | 2,300 | 326 | 14.17 | 73 | 2 | 4,319 |
| July to September | 2,300 | 348 | 15.13 | 73 | 2 | 18,950 |
| October to December | 2,300 | 282 | 12.17 | 70 | 5 | 6,334 |
| 1916. | | | | | | |
| January to March | 2,300 | 284 | 12.35 | 70 | 5 | 2,167 |
| April to June | 2,300 | 254 | 11.04 | 69 | 6 | 4,844 |
| July to September | 2,300 | 267 | 11.61 | 69 | 6 | 9,095 |
| October to December | 2,300 | 237 | 10.30 | 70 | 5 | 4,409 |

TABLE 2.—*Cases of malaria reported by months.*

| Year. | Jan. | Feb. | Mar. | Apr. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1915 | 586 | 831 | 942 | 942 | 1,177 | 2,200 | 3,753 | 5,900 | 9,297 | 3,090 | 1,990 | 1,254 |
| 1916 | 634 | 641 | 892 | 927 | 1,400 | 2,517 | 2,582 | 3,119 | 3,394 | 2,003 | 1,464 | 942 |

TABLE 3.—*Cases reported by counties, by years, and by color.*

| County. | Calendar year 1915. | | | Calendar year 1916. | | |
|---|---|---|---|---|---|---|
| | White. | Colored. | Combined. | White. | Colored. | Combined. |
| Arkansas | 263 | 59 | 322 | 286 | 112 | 398 |
| Ashley | 378 | 230 | 608 | 65 | 113 | 178 |
| Baxter | 100 | 2 | 102 | 54 | ..... | 54 |
| Benton | 48 | ..... | 48 | 228 | ..... | 228 |
| Boone | 100 | ..... | 100 | 10 | ..... | 10 |
| Bradley | 435 | 129 | 564 | 471 | 152 | 623 |
| Calhoun | 105 | 60 | 165 | 56 | 29 | 85 |
| Carroll | 37 | ..... | 37 | ..... | ..... | ..... |
| Chicot | 158 | 381 | 539 | 19 | 192 | 211 |
| Clark | 89 | 43 | 132 | 64 | 41 | 105 |
| Clay | 894 | ..... | 894 | 501 | ..... | 501 |
| Cleburne | 326 | ..... | 326 | 189 | ..... | 189 |
| Cleveland | 172 | 21 | 193 | 25 | 20 | 45 |
| Columbia | 61 | 28 | 89 | 34 | 11 | 45 |
| Conway | 940 | 103 | 1,043 | 116 | 14 | 130 |
| Craighead | 195 | 10 | 205 | 141 | 4 | 145 |
| Crawford | 1,018 | 198 | 1,216 | 523 | 94 | 617 |
| Crittenden | 70 | 238 | 308 | 70 | 469 | 539 |
| Cross | 187 | 20 | 207 | 169 | 24 | 193 |
| Dallas | 133 | 73 | 206 | 128 | 75 | 203 |
| Desha | 97 | 59 | 156 | 136 | 176 | 312 |
| Drew | 234 | 146 | 380 | 149 | 203 | 352 |
| Faulkner | 294 | 19 | 313 | 153 | 71 | 224 |
| Franklin | 287 | 3 | 290 | 244 | 7 | 251 |
| Fulton | 30 | ..... | 30 | ..... | ..... | ..... |
| Garland | 235 | 6 | 241 | 212 | 8 | 220 |
| Grant | 407 | 82 | 489 | 232 | 146 | 378 |
| Greene | 355 | ..... | 355 | 248 | ..... | 248 |
| Hempstead | 629 | 473 | 1,102 | 214 | 55 | 269 |
| Hot Spring | 131 | 80 | 211 | 122 | 45 | 167 |
| Howard | 195 | 71 | 266 | 173 | 175 | 348 |
| Independence | 311 | 6 | 317 | 271 | 23 | 294 |
| Izard | 98 | 1 | 99 | 169 | 2 | 171 |
| Jackson | 252 | 189 | 441 | 258 | 203 | 461 |
| Jefferson | 223 | 223 | 446 | 213 | 697 | 910 |
| Johnson | 851 | 5 | 856 | 179 | ..... | 179 |
| Lafayette | 108 | 99 | 207 | 45 | 57 | 102 |
| Lawrence | 543 | 20 | 563 | 336 | 84 | 420 |
| Lee | 194 | 719 | 913 | 65 | 153 | 218 |
| Lincoln | 323 | 182 | 505 | 125 | 579 | 704 |
| Little River | 642 | 667 | 1,309 | 76 | 76 | 152 |
| Logan | 470 | 8 | 478 | 279 | 15 | 294 |
| Lonoke | 301 | 120 | 421 | 261 | 61 | 322 |
| Madison | 165 | 5 | 170 | 57 | ..... | 57 |
| Marion | 14 | 1 | 15 | 18 | ..... | 18 |
| Miller | 283 | 27 | 310 | 398 | 89 | 487 |
| Mississippi | 226 | 134 | 360 | 98 | 88 | 186 |
| Monroe | 1,099 | 1,773 | 2,872 | 255 | 258 | 513 |
| Montgomery | 137 | 8 | 145 | 123 | 28 | 151 |
| Nevada | 35 | 12 | 47 | 146 | 51 | 197 |
| Newton | 290 | ..... | 290 | 38 | ..... | 38 |
| Ouachita | 428 | 392 | 820 | 222 | 145 | 367 |
| Perry | 1,096 | 216 | 1,312 | 285 | 59 | 344 |
| Phillips | 376 | 378 | 754 | 217 | 286 | 503 |
| Pike | 165 | 16 | 181 | 108 | 5 | 113 |
| Poinsett | 708 | 234 | 942 | 35 | 1 | 36 |
| Polk | 108 | 10 | 118 | 28 | ..... | 28 |
| Pope | 523 | 52 | 575 | 116 | 5 | 121 |
| Prairie | 84 | 130 | 214 | 100 | 14 | 114 |
| Pulaski | 222 | 167 | 389 | 413 | 249 | 662 |
| Randolph | 122 | 1 | 123 | 165 | 73 | 238 |
| St. Francis | 130 | 182 | 312 | 403 | 175 | 578 |
| Saline | 275 | 90 | 365 | 567 | 92 | 659 |
| Scott | 555 | ..... | 555 | 174 | ..... | 174 |
| Searcy | 60 | ..... | 60 | 113 | 101 | 214 |
| Sebastian | 629 | 112 | 741 | 502 | 151 | 653 |

TABLE 3.—*Cases reported by counties, by years, and by color*—Continued.

| County. | Calendar year 1915. | | | Calendar year 1916. | | |
|---|---|---|---|---|---|---|
| | White. | Colored. | Combined. | White. | Colored. | Combined. |
| Sevier | 694 | 99 | 793 | 436 | 53 | 489 |
| Sharp | 52 | ..... | 52 | 10 | ..... | 10 |
| Stone | 74 | ..... | 74 | 280 | 28 | 308 |
| Union | 246 | 128 | 374 | 429 | 227 | 656 |
| Van Buren | 176 | ..... | 176 | 113 | ..... | 113 |
| Washington | 216 | ..... | 216 | 116 | 6 | 122 |
| White | 232 | 38 | 270 | 267 | 40 | 307 |
| Woodruff | 107 | 153 | 260 | 308 | 58 | 366 |
| Yell | 279 | 106 | 385 | 183 | 15 | 198 |
| Total | 22,725 | 9,237 | 31,962 | 14,032 | 6,483 | 20,515 |

TABLE 4.—*Hemoglobinuric fever reported, 1916.*

| County. | Cases reported. | | | |
|---|---|---|---|---|
| | First quarter. | Second quarter. | Third quarter. | Fourth quarter. |
| Arkansas | ..... | ..... | 1 | ..... |
| Columbia | ..... | ..... | 2 | 2 |
| Conway | ..... | ..... | ..... | 1 |
| Crawford | ..... | ..... | 7 | ..... |
| Faulkner | 1 | ..... | ..... | ..... |
| Johnson | ..... | ..... | ..... | 1 |
| Lawrence | 1 | ..... | ..... | ..... |
| Lee | ..... | ..... | ..... | 2 |
| Lonoke | 4 | ..... | 1 | ..... |
| Mississippi | 1 | ..... | ..... | ..... |
| Ouachita | ..... | 1 | ..... | ..... |
| Perry | ..... | ..... | 3 | ..... |
| Phillips | 2 | ..... | 1 | ..... |
| Pope | ..... | ..... | 2 | ..... |
| Pulaski | ..... | ..... | 1 | ..... |
| Sevier | ..... | ..... | 2 | ..... |
| Woodruff | ..... | ..... | 2 | 5 |